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The emergence of open-logic sense-making: A practitioner-researcher's experience of openness and criticality

Jane Rand

Introduction

This chapter began as a paper presented at the 2014 Value and Virtue in Practice-Based Research conference, whose theme was 'Openness and Criticality: Evaluating and Publishing Our Research'. Turning the paper into a chapter has made me reflect on my own experience of openness and criticality as a practitioner-researcher, and how these have become core values for me. This exploration into my values became especially significant during my doctoral (EdD) research (Rand, 2011) where I explored the nature of the then-dominant epistemological traditions of initial teacher education within the English post-compulsory education and training sector. It helped me develop my interest in the discourses of what had emerged, in my view, as an unhelpful opposition, or polarity, between knowledge and skills in the sector. Because my research was practice-based – that is, understandings developed both *from* practice and *for* practice – I chose an action-oriented approach. I also wanted to find out how those who were new to teaching in the sector thought about knowledge and knowing. I therefore needed a reflexive methodology that would help me theorise my practice: as a teacher in the sector, a teacher-educator in the sector and a practitioner-researcher. I put constructivist grounded theory and action learning together, and found them to be powerfully overlapping fields of practice (see Rand, 2013). In this chapter, therefore, I reflect on my research experience and propose that a mutually reciprocal theory-practice research methodology can create a space for a form of sense-making that Soja (1996: 60) calls 'open logic' - that is, a way of thinking that recognises multiple truths; a 'both and also' alternative to the closed logic of 'either/or'. In my view, this type of theory-practice methodological choice can provide a means through which openness and criticality can become a core aspect of the practitioner-researcher's practice.

First I outline the contexts that informed my doctoral studies.

Contexts

From 2005 to 2013 I worked in a large English general Further Education College with a responsibility for Initial Teacher Education. Throughout the course of my EdD programme (2007–2011) I found myself drawn into the discourses of, in my view, an unhelpful polarity between knowledge and skills within the sector, which was also called 'post-compulsory education and training'. Before that, I worked in a large Scottish general Further Education College, and I was aware even then that such a polarised view fosters an academic:vocational divide.

My research concern stemmed from an understanding that, unless the notion of an academic:vocational divide is problematised within the sector, there is a risk that (amongst others) student teachers would both uncritically accept, and actively promote a polarised (or 'binary') view that knowledge comprises separate categories. Tomlinson (1999a: 535) describes this phenomenon as 'experiential residue' – the 'default options' that student teachers bring with them to education from their own experience of schooling; in this case

the residue appeared as a commitment to a binary (knowledge/skill) epistemology. This divisive perspective is contradictory to contemporary expectations that knowledge and skill are being 're-integrated theoretically – as in "thinking skills" or "problem-solving skills"' (Ainley, 2000: 5).

Throughout my doctoral studies, and in contrast to the dominant view of forms of knowledge comprising separate categories, I found myself drawn to an understanding of the relationship(s) between skills and knowledge. I therefore wished to explore what kind of polarities might contribute to the 'default options' that student teachers bring with them to education. To engage with these issues meant exploring my own positionality as a practitioner-researcher, including my own 'experiential residue' (Tomlinson, 1999a: 535); this became central to my EdD experience and to writing up my thesis. My autobiography therefore inevitably shaped my study, and exploring it helped me to make sense of why I found the concept and experience of polarity so problematic.

Exploring positionality requires a commitment to both openness and criticality. My own critical exploration of polarity was typified by 'a persistent effort to examine any belief or supposed form of knowledge in the light of the evidence that supports it and the further conclusions to which it tends' (Glaser, 1941: cited in Thomson, 2009: 3). That exploration led me to the work of Soja (1996) and Anderson (2002). Soja's work explores how people make 'practical and theoretical sense of the world' through 'interpretive dualism' (1996: 5), and engaging with Anderson's (2002: 304) work helped me to appreciate how elements that have once been polarised could be combined 'in positions that are flexible and tentative' rather than fixed, and which enable researchers to 'focus more on the spaces 'in between' these binaries' (308-9).

Background

The Organisation for Economic Cooperation and Development identifies education as a knowledge-intensive service sector of a knowledge-based economy (1996: 9). They contend that a knowledge-based economy is 'characterised by the need for continuous learning of both codified information and the competences to use this information' (1996: 13). They challenge government policies to prioritise knowledge-diffusion, promote change, and upgrade human capital through policies which should 'promote access to skills and competences and especially the *capability to learn*' (18–19; my emphasis).

The *Learning and Skills Act 2000* (Great Britain, 2000) located all post-compulsory education in England and Wales, excluding Higher Education, in the newly named learning and skills sector (Steer et al., 2007). This is a diverse sector, encompassing 16–19 education and training, adult and community learning, workforce development and work-based learning (Edward and Coffield, 2007; Spours et al., 2007).

However, a post-compulsory education system purposively designed to promote learning appears to have been replaced by a learning and skills system dedicated to the 'development of economically useful skills' (Finlay et al., 2007: 140–142). Finlay et al. argue that the discourse of skills has overshadowed learning, where learning is defined as 'significant changes in capability or understanding' (Eraut, 1997: 556). This shift is

problematic, especially when a (contemporary) knowledge-based economy demands a theoretical integration of the two (Ainley, 2000). Ainley (2000: 6; my emphasis) argues that the two 'cannot be logically be separated', but recognises within English culture a tendency towards a 'separation and superiority of mental *knowledge* over manual *skills*'. Within the discourses of post-compulsory education and training, this separation and hierarchisation is known as an academic:vocational divide.

In her review of vocational education, and how it can 'ensure progress into higher learning and employment', Alison Wolf (2011: 6) describes how the British government designed and promoted 'non-academic' (2011: 45) alternative routes to General Certificate in Secondary Education (GCSE) and Advanced-level qualifications, yet simultaneously ascribed them equivalent academic value (for example, a Business and Technology Education Council (BTEC) 'First Diploma' is equivalent to four GCSEs A*-C). This now-established conception valorises the academic; consequently, any alternative perspective (in this case a perspective of education as vocational) results in a dichotomy – a division into two mutually exclusive and opposed parts. Wolf (2011: 23) argues that this separation has arisen from misguided 'quantification incentives' – a term used to denote a calibration of educational 'worth', through the use of comparable indicators such as credit value, as if it were a kind of single currency. This has resulted in a confused discourse:

There is no formal definition of 'vocational education' in England, and the term is applied to programmes as different as the highly selective, competitive and demanding apprenticeships offered by large engineering companies and the programmes which recruit highly disaffected young people with extremely low academic achievement. Some submissions to the review were concerned that using the term 'vocational' for the latter was wrong, and damaged the former. Others insisted that low-achievers needed vocational qualifications and argued for their protection.

The many ways in which the term vocational is used reflects the many different purposes which 14–19 education serves and its large and diverse student body. Some qualifications are highly specific, oriented to a particular occupation. Others are more general, and are referred to sometimes as vocationally-related or pre-vocational. Some are very difficult and demanding, others not.

Critique of educational quantification is not new. In 2000, Coffield argued that the dominant culture of Western twenty-first century education is credentialist – geared around the quantification of an individual's abilities and experiences. Others agree, arguing that our contemporary education system is built upon a paradigm that responds to educational challenges of the past (Davidson, 2011), and 'conceived in the intellectual culture of the Enlightenment and in the economic circumstances of the industrial revolution' (Robinson, 2010: 01:59). A production-line mentality, 'modelled on the *interests* of industrialism and in the *image* of it' (Robinson, 2010: 06:44; emphasis in original) is instrumentalist, focussed on the ends rather than means, and on concrete and readily comparable indicators such as learning outcomes and accreditation (Bartlett, 2003). This view is echoed by Hartley (1995: 419; emphasis in original):

The current quest of the government is to regard education *as if* it had some inert material essence, or *as if* its production process could be readily broken down into a set of fixed, measurable and assessable procedures ... *as if* its output should be predictable, standardisable and quantifiable. But all this ignores the consideration that the means and ends of education in a democracy are in principle varied, diverse and negotiable.

In practice, the sector has become geared towards quantification, driven by a commitment to the commodification of learning, and characterised by a 'parasitic test-taking practice where the exchange value of knowledge increases independently of its use value' (Lave and Wenger, 1994: 112; cited in Ainley, 2000: 8). Such a simplified and mechanistic system of learning and skills maintains a view of separation of mental (knowledge) and manual (skills) throughout the sector. This can prevent the facilitation of change *through* education. Driven by policy, curriculum and pedagogy become overwhelmed by commodification and separation and 'experiential residue' (Tomlinson, 1999a: 535) is underpinned by student teachers' (closed) perceptions of knowledge. Teachers' capacity to act as agents of change is therefore compromised.

This experience is not exclusive to Further Education. Barnett (2009: 439) suggests that there has also been 'nothing less than a largely unnoticed revolution in higher education, [which] can be understood as the exchange of one dogma for another: from knowledge to skills.' This modern realisation of Ritzer's (1993) view of 'McDonaldization' (emphasising the dimensions of efficiency, calculability, predictability and control) satisfies political requirements for commodification and comparability (Hartley, 1995; Lomas, 2004). But it reduces the experience of education to one of inspection, appraisal and measures of compliance (Burgess, 2004) at the expense of 'creativity, innovation and criticality' and assumes a 'fixed, bounded, unambiguous and unproblematic' conceptualisation of knowledge (Lomas, 2004: 177–8).

Significantly, at the time my research took place, the policy document *The Further Education Teachers' Qualifications (England) Regulations 2007* required all new teachers appointed from 1 September 2007, and in a role that 'requires the teacher to demonstrate an extensive range of knowledge, understanding and application of curriculum development, curriculum innovation or curriculum development strategies' (2007: 1-2), to hold or acquire a professional qualification at a level equivalent to (or higher than) a university second year undergraduate programme, and to gain Qualified Teacher Learning and Skills (QTLS) status. So the student teachers whose education (of curriculum and pedagogy) I was committed to, were situated within a complex context: positioned simultaneously as further education student *teachers* and higher education *learners*, and caught (up) within the epistemological assumptions of each system.

My research

I now consider the importance of the idea of researcher positionality.

Reflecting on researcher positionality

As an 'insider' interpretive researcher (Sikes and Potts, 2008), it was essential to explore my positionality in my research. I recognised in myself a personal dissatisfaction with the concept of an academic:vocational divide in post-compulsory education, which I will outline here. I have had the privilege of working with many who have embarked on 'post-school', other than university-based, learning, ranging in age, experience, confidence, qualifications, ambition and self-belief. Almost all would have described themselves as 'not academic'. As a learner myself, I first entered higher education as a mature student, having chosen a post-school route which included both full-time further education and, later, a combination of work and part-time study in further education. Later still, I left the world of work to study in higher education full-time. I returned to work, now in a second career, as a teacher in the post-compulsory education and training sector. During the time of my own higher education experience, my learning 'diet' included both subject-specific and pedagogical studies. In contrast to those learners I have worked with in post-school settings, I did not consider myself as 'academic', 'not academic' or 'vocational'.

I have since then continued my education through part-time post-graduate study, whilst working in education, at both masters and doctoral level. As my teaching career developed into one to do with post-school initial teacher education I have had the privilege of working with a new group of learners, commonly termed 'dual professionals' in the discourses of Further Education and Higher Education: that is, both subject-specific experts and also educational professionals (see also Institute for Learning, 2012 and Peel, 2005). Despite the sector-specific expectations of dual professionalism, what I found was that many post-school student teachers did not view themselves as educational researchers or scholars. They too would describe themselves as 'not academic', having come from the world of work into post-compulsory education and training in order to teach. Specifically they appeared to believe that they were 'not academic' because they considered their subject-specialism(s) to be 'vocational' rather than 'academic' (Rand, 2011).

This raises the issue of identity. Sen (2007: 19) offers a view that I describe as 'open-logic'; he argues that human beings are multi-identified and 'each identity brings both a richness and warmth and also constraints and freedoms'. In exploring my own positionality and identity, as a researcher and doctoral student, I recognised some key characteristics that had developed through my post-graduate study, including a focus on:

- understanding meaning/s, processes and contexts
- identifying unanticipated phenomena and generating results and theories that are understandable
- 'particularistic' research. (Maxwell, 2005: 22)

These intellectual and practical goals were consistent with a qualitative approach, one which I had comfortably adopted in my masters research (Rand, 2006). But, in preparing the initial framework for my doctoral research, the greater challenge was the examination of my epistemological, ontological and axiological assumptions, and their potential impact on my research practice. What I particularly learned about myself was that (perhaps in contrast to some of my colleagues in the sector) my research and scholarly activity was closely linked to

a desire to satisfy an internal(ised) concern about the validity of my occupying a professional role in education. In Further Education, lecturers are typically appointed on the basis of their 'vocational' experience whilst in Higher Education, qualifications that indicate subject expertise are normally required. I felt confused as a Higher Education lecturer based in a Further Education College and working in a relatively new context known as 'HE in FE'; I was grappling with, or attending critically to, my developing identity as an initial teacher educator. As a doctoral student, I came across Maxwell's work on interactive approaches to the design of qualitative research and this helped me explore my developing identity. Maxwell (2005: 27) recommends writing a researcher identity memo to:

examine your goals, experiences, assumptions, feelings, and values as they relate to your research, and to discover what resources and potential concerns your identity and experience may create.

Writing a researcher identity memo helped me to realise that my insecurity was related to a personal concern with credibility – I had 'vocational' experience of being a teacher in further education but I had concerns about how 'academically' experienced I was. Memoing enabled me to explore a personal transition from an early focus on quantifiable academic achievement (suggesting my own experiential residue was highly influenced by quantification/credentialism) to a distinct qualitative underpinning of my scholarship and practice. As a result, I became aware of my own reflective and reflexive approach to developing myself as a researcher. Memoing revealed the deep-seated nature of the value I place on retaining, and promoting, high quality scholarship within further education, and within the initial teacher education of those who wish to teach in the sector. Without it, further education (and the initial teacher education of those who join the sector to teach) risks becoming 'dumbed down'. I saw my complementary role as a teacher-educator and active scholar as pivotal in championing the scholarship and professionalism associated with teaching in the sector, regardless of whether a subject-specialism might typically be considered as 'academic' or 'vocational'.

I now work in a University Education department; I would still not consider myself as *being* academic, although I recognise that I might be considered as *an* academic since my work (my vocation) is located within the academy.

Making one's own epistemic, ontological and axiological identity explicit is important for practitioner-researchers. This process has been described by Luca as *embodied bracketing*: placing 'assumptions and preconceptions in parenthesis ... constantly accessible for reflection' (n.d.: 5). I adopt an interpretivist approach; this means others' perceptions and values are significant to me and, as a practitioner-researcher I am more interested in *process(es)* rather than *product(s)*. My broad ontological assumptions are of voluntary agency and subjective meaning, and that social reality is a product of individual consciousness (Burrell and Morgan, 1979). These assumptions fit with methodological approaches that might be described as *particularistic* – that is, approaches that set out to discover deep(er) levels of meaning (Burns, 2000: 11). The approach I chose in my EdD research made my identity explicit through a process of iterative reflexivity – a process of consciously subjecting my beliefs, values and ideology to critique (Johnson, 1999;

Krimerman, 2001: 72; Payne and Payne, 2004). My research approach was directed towards both openness and criticality.

I found the duality of my own tutor/researcher role and my contextual pre-understanding (Smyth and Holian, 2008) of the post-compulsory education and training sector advantageous to me as a doctoral student, but I was able to use these to legitimise my research only because of my choice to articulate what Coghlan and Pedler (2006) call an *experienced problem*. My experienced problem was the lived nature of a knowledge/skills (academic/vocational) polarity within post-compulsory education and training. As a practitioner with the opportunity to work with colleagues new both to teaching and to post-compulsory education and training, this problem was 'within my influence and not capable of easy solution' (Coghlan and Pedler, 2006: 129), and therefore one which was suited to exploration through action learning.

Reflecting on methodology

Action learning is differentiated from action research, because research is not its primary aim (Kember, 2000: 35). Both are concerned with social practice, are cyclical, systematic, participative, contextualised, improvement-oriented and underpinned by critical reflection (Kember, 2000). Action-oriented strategies link the targets of inquiry to their context; they are geared towards improvement and underpinned by a collaborative and reflexive development of understanding, and the principle that humans actively construct their own meaning (new knowledge) (Pedler, Burgoyne and Brook, 2005: 52; Plauborg, 2009; Rand, 2013). The focus in action learning is *learning* which, sometimes, may not extend beyond personal observation and reflection. Definitions of action learning vary; my own understanding of it is:

Development-oriented learning through collaborative engagement with real problems, based on questioning insight and critically reflective thinking. (Rand, 2011: 42)

Action learning, whose roots are in management education, is a process of *critical colleagueship* (Lord, 1994). It typically involves a group of professionals coming together on a regular basis to form an Action Learning Set. Set meetings are geared towards helping individuals better understand their experienced problems, and to develop and implement responsive strategies and/or actions.

Action learning *research* has built a presence more widely within the academy over the last two decades, largely in business, management, health and education. Research by Pedler, Burgoyne and Brook investigated the range and effectiveness of action learning in business and management teaching; in this they describe part of their own process of researching action learning as involvement in "'sense-making" conversations' between themselves (Pedler, Burgoyne and Brook, 2005: 53). For me, this is the essence of action learning – a space in which practitioners can examine their experienced problems through reflection and conversations that are geared towards 'sense-making'.

I had explored the issue of an academic:vocational (knowledge:skill) divide in the first part of my EdD programme and developed an argument against polarity. I then presented a new argument, which I will show here in three parts: i) that knowledge relates to understanding on a continuum between practical (or ‘applied’) and theoretical (or ‘pure’); ii) that an individual’s power or capacity to engage with and/or employ knowledge is referred to as their *skill*; iii) that the process we call *learning* involves gaining ‘knowledge of or skill in’ something by ‘study, experience or being taught’ (Thompson, 1996: 564). And so, I developed an argument for complementarity - for *knowledge of* and *skills in* to be considered as interconnected, dynamic, mutually sustaining and developmental (Rand, 2011). As a result I developed a conceptual model, *Dimensions of knowing* (Rand, 2011), designed to promote an alternative to a binary knowledge/skill conceptualisation. *Dimensions of knowing* is based on three dimensions of generality (width), complexity (depth) and materiality. This conceptual model developed from my exploration of accounts of knowledge reported by others (Ainley, 2000; Albino et al., 2001; Ancori et al., 2000; OECD, 1996; Vermunt, 1996). Although it is explored in detail elsewhere (Rand, 2015a), the key features are relevant to this reflective account:

- *knowledge of* can be considered through the two dimensions of generality (width) and complexity (depth)
- *skills in* can be considered through the dimension of *materiality* – as outputs, or knowledge states on a continuum between material (physical) and immaterial (mental)
- the interconnected, dynamic and mutually sustaining relationship(s) between the three dimensions of generality, complexity and materiality can be conceptualised as a *portrait of knowing* (considered by one student teacher to be “like the lava in a lava lamp”)

In Part II of my EdD, I set out to operationalise the model in a real context and explore its potential. Through the critical collegiality of action learning, I asked student teachers to discuss their own *experienced problems* within an Action Learning Set environment, and I also presented my experienced problem to them as Set members (see Rand, 2013 and 2015a). I wanted to objectify how student teachers in the post-compulsory education and training sector thought about knowledge and knowing; it was important to me represent, and re-present, their particular understanding about knowledge and knowing so that it could ‘enter the experience of others and so become common property’ (Blumer, 1969: 158). Constructivist grounded theory enabled me to do this through the processes of abstraction and theory-development and, significantly, it also enabled me to accommodate the collaboration, active agency and reflectivity of action learning.

Constructivist grounded theory ‘sees knowledge as socially produced ... takes a reflexive stance ... [and] assumes that we produce knowledge by grappling with empirical problems’ (Charmaz, 2009: 129-30). It is an investigative, iterative, constant comparative process through which data are *fractured, selected, related* and *integrated*, typically into a substantive (explanatory) theoretical framework (Charmaz, 2006: 6; Luca, n.d.; Rand, 2015b). The explicit link between action approaches and constructivist grounded theory is the agency of those who are grappling with empirical problems (Rand, 2013), including both researchers and those who participate with us in research.

Reflecting on sense-making

What I found in my research was that student teachers' engagement with my model *was* dominated by dualism. I found that the experiential residue of those who participated in my study was underpinned by polarised conceptions of knowledge and knowing; the substantive grounded theory framework which represented their particular understanding(s) objectified this (see Rand, 2015a). However, the substantive grounded theory framework also illustrated that student teachers could successfully conceptualise *knowledge of* and *skills in* as interconnected, dynamic, mutually sustaining and developmental when the *Dimensions of knowing* model was used to support an interruption of their habituated views (Martin, 1997).

My study demonstrated 'the way in which the teaching and learning process (in contemporary post-compulsory education and training) is dominated by 'particular ways of 'knowing', about the teacher, the learner and educational practices' (Malcolm and Zukas, 2001: 34). This was interesting, because the majority of the practitioners within my study were new teachers. For me, it raised the question of why polarity might be integral to the 'default options' (Tomlinson, 1999a: 535) of student teachers in the twenty-first century. An exploration of the literature suggested that polarity has in fact been the subject of scholarly critique for well over a century as Dewey's seminal text *How We Think* (1910: 135–6) explains:

The maxim enjoined upon teachers, 'to proceed from the concrete to the abstract,' is perhaps familiar rather than comprehended. Few who read and hear it gain a clear conception of the starting-point, the concrete; of the nature of the goal, the abstract; and of the exact nature of the path to be traversed in going from one to the other. At times the injunction is positively misunderstood, being taken to mean that education should advance from things to thought – as if any dealing with things in which thinking is not involved could possibly be educative. So understood, the maxim encourages mechanical routine or sensuous excitation at one end of the educational scale – the lower – and academic and unapplied learning at the upper end.

Actually, all dealing with things, even the child's, is immersed in inferences; things are clothed by the suggestions they arouse, and are significant as challenges to interpretation or as evidences to substantiate a belief. Nothing could be more unnatural than instruction in things without thought; in sense-perceptions without judgments based upon them. And if the abstract to which we are to proceed denotes thought apart from things, the goal recommended is formal and empty, for effective thought always refers, more or less directly, to things.

I believe that a conceptualisation of education based on commodification and quantification has become normalised through familiarity, rather than through (critical) comprehension. This is problematic because the educational model has changed, from one based only on a conceptualising pedagogy, with roots in the Enlightenment and where intellectualism was valued (Bloomer and Hodkinson, 2000; Davidson, 2011; Eneroth, 2008; Robinson, 2010), to

one which also includes what Eneroth (2008) calls 'handiwork', or circumstantial pedagogy – where ways of thinking *and* practising are valued. The result of this 'action in practice', and the attempts to quantify and validate it, is a 'growing academisation of practical work' (Eneroth, 2008: 233). The custom and practice of maintaining and 'serially re-designing' (Wolf, 2011) an education system in the familiar image of industrialism – in Robinson's (2010) terms from a production-line mentality – has resulted in education being conceptualised as academic and vocational product(s). But the *product* of an education system is knowledge.

Absolute binaries, or 'sharp dichotomies' (Coffield, 2000) can hide the *practice* of learning (Whitchurch, 2010). A constructivist epistemology does not view knowledge as absolute; instead it views knowledge as the creation of new 'rules and resources' derived from various 'originary' spaces (Whitchurch, 2010: 633). Through a constructivist lens, knowledge is 'dynamic and uncertain and the truth remains provisional' (Ramsden, 1988: 18).

As an alternative to the kind of dichotomies presented throughout this text, Young et al. (1997: 532) propose a unified education system based on 'connectivity'; they argue for the development of 'new relationships between theory and practice', which gives less emphasis to separating learning (and learners) through 'distinguishing types of qualifications which stress either theoretical or practical learning'. This echoes Hartley's (1995) view of a negotiable, varied and diverse output from an education system.

If dichotomies can hide the practice(s) of learning, then promoting a connective alternative is advantageous. A connective paradigm promotes theory:practice complementarity; it supports a richer conceptualisation than is possible through conceptualising two elements in contrast, which Anderson (2002) calls a 'bicameral confinement'. Relying on a dichotomy to conceptualise knowing, separates knowledge-generation from its use, and knowledge from the knower (Cochran-Smith and Lytle, 1999). As an alternative, complementarity supports the notion of collocation, that skill development is co-dependent on certain knowing and that practice is not atheoretical (Cochran-Smyth and Lytle, 1999; Moje et al., 2004; Tomlinson, 1999b). Complementarity supports a constructivist view that learning prioritises sense-making over acquisition (Bloomer and Hodgkinson, 2000) and promotes dynamic interrelationships between knowledge and skills.

The real danger in dichotomies is that they disguise differences *within* dualisms, and permit one side to be valued over the other (Pile, 1994). Rather than 'sharp dichotomies' (Coffield, 2000) and absolute binaries, Soja (1996: 5) offers an argument that people make 'practical and theoretical sense of the world' through 'interpretive dualism', which is a method for describing perceptual limits, or the points beyond which something does not continue (Mezirow, 1981: 16). Soja explores this through the work of Lefebvre and encourages a 'dialectically open logic of *both and also*' (1996: 60 emphasis in original) as an alternative to the compacted meaning of a 'categorical and closed logic of *either/or*'. Dialectics is the art of investigating the truth of opinions. Within an open logic, I believe there exists an opportunity for reconceptualisation, for 'new combinations of once dualized elements' and for 'entangling the once exclusive' (Anderson, 2002: 304, 316).

Tomlinson's notion of 'experiential residue' (1996a: 535) however, suggests that such a reconceptualisation would be problematic for today's student teachers, because of their own experiences of a commodified, production-line, education system. Zeichner (2010: 89, 92) therefore encourages a 'paradigm shift in the epistemology of teacher education' to facilitate an 'equal and more dialectical relationship between academic knowledge and practical knowledge'. I agree. I also argue that this paradigm shift is relevant to twenty-first century research practice; my experience as a practitioner-researcher is of an equal and dialectical relationship between theory and practice, between constructivist grounded theory and action learning.

Conclusions: open-logic sense-making

The focus of the fourth International Values and Virtues conference in 2014 was openness and criticality. My research embodied this combination. It enabled me both to look *out*, to literature and policy, and also to look *in*, to [and *into*] practice. Charmaz (2006: 181) argues that '[T]he sense we make of the journey takes form in our completed work'. In my research, the sense-making was *both* of student teachers' practices *and also* of my 'experienced problem' (Coghlan and Pedler, 2006). As such, in writing up my research I *both* objectified the particular *and also* explored my positionality through a rich description. Each element powerfully improved the other.

As practitioner-researchers we must remember that the reader is active in interpretive research. We therefore have a responsibility to communicate and (re-)present the information generated from our research in a way that enables the readers (including those who participate with us in research) to verify *both* the findings *and also* the research process(es). This *re*-presentation also needs to be accountable to the quality criteria of interpretive research: credibility, dependability, transferability, typicality, relatability and translatability (Burton et al., 2008; Lincoln and Guba, 1985; Popay et al., 1998).

To achieve this accountability, Silverman (2000) champions a 'natural history' style of reporting qualitative research; one which promotes a technique of telling a 'structured story' of our research. But in order to avoid an unnecessarily confessional approach (Hammersley 2000) we must combine openness *with* criticality, that is '[F]aithful, reportorial depiction' *with* critically 'analytical probing' (Blumer, 1954: 10), in order to share the 'distinctive impression' of our research (Blumer, 1954: 8). This means our beliefs, values and ideologies must be both explored reflexively and also subjected to the intellectual rigour of critical subjectivity (Johnson, 1999; Krimmerman, 2001; Luca, n.d.; Payne and Payne, 2004). For me, this was enabled through combining the 'productive disequilibrium' of action learning (Males, 2009: 930) and the constant comparative abstraction of constructivist grounded theory.

This combination of constructivist grounded theory and action learning is one reciprocal 'theory-practice' approach. The interconnection of theory and practice is called praxis; Coghlan and Pedler (2006: 132) would call my methodological combination 'praxeological' – it unites knowing and doing. My experience is that a praxeological research approach can create 'originary' spaces (Whitchurch, 2010), *within* which practitioner-research can

embody both openness and also criticality, and *from* which a new, open-logic sense-making can emerge.

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